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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,054	01/15/2001	Thomas J. Dudley	CORE-62	4993

7590
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470 Totten Pond Road
Waltham, MA 02451

01/16/2004

EXAMINER

KIM, DAVID S

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 01/16/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,054

Applicant(s)

DUDLEY, THOMAS J.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

3. The abstract of the disclosure is objected to because its undue length. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150 words**. It is important that the abstract not exceed **150 words** in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The disclosure is objected to because of the following informalities:

On p. 6, line 20, "laser 150" is used where "filter 150" may be intended.

Appropriate correction is required.

Claim Objections

5. **Claims 3 and 6** are objected to because of the following informalities:

In line 8 of claim 3 and line 19 of claim 6, "tunable laser" is used where "tunable filter" may be intended.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-2 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Albanese et al. (U.S. Patent No. 4,712,859) in view of Wright et al. (U.S. Patent No. 6,411,410 B1).

Regarding claim 5, Albanese et al. discloses:

A fiberoptic system comprising:

a central office (central office 301 in Fig. 3); and

at least one downstream station (user stations 303-n in Fig. 3) connected to said central office;

said central office comprising means for transmitting a light signal (laser 323 and modulator 321 in Fig. 3), means for receiving a light signal (receivers 317-n in Fig. 3) and a CW laser (laser 309 in Fig. 3, col. 5, lines 43-44); and

each said downstream station comprising means for receiving a light signal (photodetector 349 in Fig. 4) and a filter (objects 340 and 347 in Fig. 4), said filter being placed between the downstream station's RX unit and said central office.

Albanese et al. does not expressly disclose:
said filter being tunable.

However, tunable filters are extremely well known and common in the art. Wright et al. discloses downstream stations that incorporate tunable filters (Wright et al., tunable filter 42 in Fig. 7). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the downstream stations of Albanese et al. to incorporate tunable filters. One of ordinary skill in the art would have been motivated to do this to enable the downstream stations of Albanese et al. to handle different wavelengths, enabling the benefits of wavelength-division multiplexing (Wright et al., col. 1, lines 60-67), such as increased capacity and increased bandwidth efficiency.

Regarding claim 1, claim 1 is a system claim that corresponds to system claim 5. Therefore, the recited means in system claim 5 read on the corresponding means in system claim 1.

Regarding claim 2, Albanese et al. in view of Wright et al. discloses:

A fiberoptic system according to claim 1 wherein said tunable filter is configured so that during downstream transmission, said tunable filter is tuned (Wright et al., col. 8, lines 6-9) to the wavelength of the central office's TX unit so that the signal transmitted by the central office will pass through (col. 7, lines 34-37) said tunable filter and be received by the station's RX unit.

8. **Claims 3 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Albanese et al. in view of Wright et al. as applied to claims 1 and 5 above, and further in view of de Corlieu et al. (U.S. Patent No. 4,134,008).

Albanese et al. in view of Wright et al. does not expressly disclose:

A fiberoptic system according to claim 1 wherein said tunable filter is configured so that during upstream transmission, the station's tunable filter is selectively tuned to a wavelength different than the wavelength of the central office's CW laser, so that the station's tunable filter

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(Wright et al., tunable filter 42 in Fig. 7) will selectively reflect () light from the CW laser back to the central office, with said tunable filter being selectively tuned so as to modulate the light being reflected back to the central office, whereby to effectively create an upstream transmission from the downstream station to the central office.

De Corlieu et al. teaches a tunable filter used in upstream transmission wherein this filter will selectively reflect light back to the light source, with said filter being selectively tuned so as to modulate the light being reflected back to the light source, whereby to effectively create an upstream transmission from a downstream location to the location of the light source (de Corlieu, Fig. 5, col. 4, lines 20-42). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the filter teachings of de Corlieu et al. in the system of Albanese et al. in view of Wright et al. One of ordinary skill in the art would have been motivated to do this in order to integrate together the modulation teaching of Albanese et al. and the tunable filter teaching of Wright et al. into a simple device. Also, de Corlieu et al. teaches the implementation of the tunable filter as a "Perot-Fabry type" (de Corlieu et al., col. 4, lines 23-24), or Fabry-Perot type. As Fabry-Perot type tunable filters are extremely well known in the art, they comprise a highly mature technology.

Albanese et al. in view of Wright et al., further in view of de Corlieu et al., still does not expressly disclose:

the station's tunable filter is selectively tuned to a wavelength different than the wavelength of the central office's CW laser.

However, de Corlieu implicitly teaches this limitation since a Fabry-Perot type filter is used (de Corlieu, et al., col. 4, lines 23-24). A change in the length of the Fabry-Perot cavity (de Corlieu et al., "thickness of the plate 12," col. 4, lines 25-26) or the index of refraction (de Corlieu et al., "refractive index," col. 4, lines 33) tunes the filter to a different wavelength. Thus, one

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tunes a Fabry-Perot type filter by selectively tuning to a wavelength different than the wavelength of the incident light, or central office's CW laser in this case.

Regarding claim 6, claim 6 is a method claim that corresponds to a coherent combination of the limitations in system claims 1-3. Since all these claims are rejected under Albanese et al. in view of Wright et al., further in view of de Corlieu et al., all the limitations of method claim 6 are found in Albanese et al. in view of Wright et al., further in view of de Corlieu et al. Additionally, Albanese et al. in view of Wright et al., further in view of de Corlieu et al., coherently teaches the limitations in claims 1-3. That is, the limitations in claim 6 are not divergently taught under Albanese et al. in view of Wright et al., further in view of de Corlieu et al. Therefore, the recited means in the coherent combination of the limitations in claims 1-3 read on the corresponding steps in method claim 6.

9. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Albanese et al. in view of Wright et al. as applied to claim 1 above, and further in view of Ramaswami et al. (*Optical Networks: A Practical Perspective*).

Regarding claim 4, Albanese et al. in view of Wright et al. does not expressly disclose:

A fiberoptic system according to claim 1 wherein said CW laser is a tunable laser, and each said downstream station is assigned a different wavelength within the tuning range of said laser.

Ramaswami et al. discloses such a system that utilizes a tunable laser and downstream stations (Ramaswami et al., p. 492, 1st full paragraph, Fig. 12.7). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate these system teachings of Ramaswami et al. One of ordinary skill in the art would have been motivated to do this since "this approach allows each [downstream station] to have electronics running only at the rate it receives data, and not at the aggregate bit rate" (Ramaswami et al., p.

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492, 1st full paragraph) as is necessary in other comparable systems (Ramaswami et al., p. 491, 1st full paragraph – p. 492, 1st paragraph, Fig. 12.6).

Conclusion

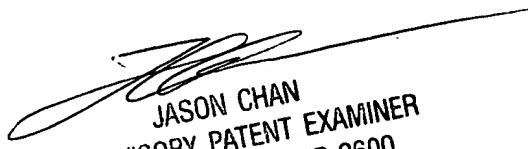
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Perrier et al. and Touma are cited to show related fiberoptic systems. Suzuki et al. and Feldman is cited to show related fiberoptic systems and related modulating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 703-305-6457. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

DSK


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